

REMARKS

Claims 1-2, 4-7, 14-15, 17-20, 51, 55, and 60 are pending. Claims 3, 16, 56, 57, 61, 62, 75, and 76 are canceled without prejudice. Claims 1, 14, 55, and 60 are currently amended. Support for the claim amendments can be found throughout the specification and original claims, in particular in steps S3-S12 of FIG. 4 and related text.

The following remarks are in response to the Final Office Action mailed July 29, 2009.

Status of Claims

Claims 75 and 76 stand rejected under 35 U.S.C. § 112 as failing to comply with the written description requirement. Claims 75-76 have been canceled, rendering these § 112 rejections moot.

Claims 1, 2, 4, 5, 7, 14, 15, 17, 18, 20, 51, 55, and 60 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito (U.S. Pat. No. 6,298,405) in view of Rasche (U.S. Pat. No. 7,262,873) and further in view of Kitagawa (U.S. Pat. No. 6,357,021).

Claims 3, 16, 57, and 62 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito, in view of Rasche, as applied to claims 1 and 14, and further in view of Tanaka (U.S. Pat. App. Pub. No. 2003/0007169). Claims 3, 16, 57, and 62 have been canceled, rendering these § 103 rejections moot.

Claims 6 and 19 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito, in view of Rasche (and Kitagawa), as applied to claims 1 and 14, and further in view of Rissman (U.S. Pat. No. 6,552,743).

Claims 75 and 76 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito in view of Rasche and Kitagawa as applied to claims 1 and 14, and further in view of Shiohara (U.S. Pat. No. 6,618,553). Claims 75 and 76 have been canceled, rendering these § 103 rejections moot.

Claim 1, as currently amended, requires an image sensing apparatus comprising an image sensing unit which converts an optical image of an object into an electric image

signal, and an interface capable of communicating with an external printing apparatus, wherein the image sensing apparatus comprises: (a) a communication control unit which starts communication between the image sensing apparatus and the external printing apparatus, with the external printing apparatus being a host and the image sensing apparatus being a slave, to transfer the image signal to the external printing apparatus via the interface; (b) a detection unit; (c) a display unit; and (d) a processing controller.

The detection unit of claim 1 automatically detects, upon a connection between the image sensing apparatus and the external printing apparatus being established, whether control relation between the image sensing apparatus and the external printing apparatus is a first type of direct printing in which the external printing apparatus and the image sensing apparatus are connected in Mass Storage Class mode of USB and a memory in the image sensing apparatus can be accessed directly from the external printing apparatus, or a second type of direct printing in which processing in the external printing apparatus can be controlled by a controller of the image sensing apparatus, by communication with the external printing apparatus via the interface.

The processing controller of claim 1 automatically changes between: (1) a processing procedure in which the image sensing apparatus is restricted to transmission of image data stored in a memory of the image sensing apparatus to the external printing apparatus in response to an instruction from the external printing apparatus in a case where the first type of direct printing is detected, and (2) a processing procedure in which the image sensing apparatus transmits image data to be printed and a print command to the external printing apparatus in a case where the second type of direct printing is detected.

The processing controller of claim 1 also: (i) displays a message to operate the external printing apparatus and turns off the display unit in response to the detection of the first type of direct printing, and (ii) displays a message to perform print operation on the display unit in response to the detection of the second type of direct printing.

Claim 14 is an independent method claim with steps corresponding to those performed by the units of the apparatus of claim 1. The remaining claims each depend from either claim 1 or claim 14.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 2, 4, 5, 7, 14, 15, 17, 18, 20, 51, 55, and 60 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito, Rasche, and Kitagawa. Claims 6 and 19 stand rejected under 35 U.S.C. § 103 as unpatentable over Ito, Rasche, Kitagawa, and Rissman. These rejections, to the extent they may be applied to the currently amended claims, are respectfully traversed, for the following reasons.

The connection relationship between the image sensing apparatus and external printing apparatus of claim 1 is fixed either to the first type or the second type, and does not switch between the first type and the second type as long as the external printing apparatus is connected to the image sensing apparatus, because the relationship is determined by the ability of the external printing apparatus.

In the first type, the image sensing apparatus is restricted to transmit image data stored in memory in response to a pressing of a transfer switch in the external printing apparatus, and is not allowed to control the external printing apparatus. Whereas in the second type, the image sensing apparatus is allowed to transmit image data to be printed as well as a print command to the external printing apparatus - i.e., the image sensing apparatus is allowed to control the external printing apparatus.

The reason for restricting the ability of the image sensing apparatus in the first type is that there are printing apparatuses that are not conformed to certain communication procedures (e.g., NCDP (New Camera Direct Print)) and do not have an ability to be controlled by an image sensing apparatus. In such case, the image sensing apparatus acts as if it is a memory, such as a common MD memory, a USB memory, etc., which can only provide images stored therein to the printing apparatus.

In contrast, as expressed in column 21, line 22 to column 23, line 45 in Ito in the direct printing, the VTR 102 (camera 105) can transmit image data and command data to the printer 101 based on the operating of the operating unit 10, and also can transmit image data to the printer 101 in response to a request from the printer 101. However, there is no description about restricting the VTR 102 to transmission of image data in response to a

request from the printer 101. Without this restriction, if a printer which does not have an ability to accept command from the VTR 102 is connected and if the VTR 102 transmits a control command to the printer, the printer cannot process the command, and thus the process will be trapped or ignored.

In contrast, in the apparatus of claim 1, when the first type is detected, the image sensing apparatus cannot transmit any command for controlling the external printing apparatus to the external printing apparatus, and further a message to operate the printing apparatus is displayed in the display unit of the image sensing apparatus. This helps a user to know what operation the user should take to print a desired image. Such a message (i.e., prompting a user to operate a printer in the first type) is not taught by either Ito or Shiohara.

Rasche discloses an ability of a printer communicating directly with a camera, but there is no teaching about a camera which can be restricted to transmission of image data.

Kitagawa discloses connection in the Mass Storage class mode of USB between a digital camera and a computer. However, Kitagawa is silent about the digital camera and the computer is connected in the second type. Further, the claimed invention relates to a technique of not using (omitting) a computer upon connecting between an image sensing apparatus and a printing apparatus. Consequently, one skilled in the art would be discouraged from reliance on the teachings of Kitagawa.

Tanaka merely discloses an energy saving mode. Tanaka is silent about the display unit being turned off in response to the detection of the first type.

As explained above, neither Ito, Rasche, nor Kitagawa discloses an image sensing apparatus which can operate so as to conform to either of the first type or the second type, and there is no teaching or suggestion of an image sensing apparatus having an ability of changing between a processing procedure of restricting the image sensing apparatus to transmission of image data, and a processing procedure of transmitting image data to be printed and a print command in accordance with the control relation with the external printing apparatus, namely, the first type of direct printing or the second type of direct printing. Without such an ability to change procedures, the detection of the first type or the second type is not necessary, and naturally is not disclosed by Ito, Rasche and/or Kitagawa.

Moreover, an operation of displaying a message to operate the external printing apparatus and turning off the display unit, or displaying a message to perform print operation on the display unit in accordance with the control relation between the image sensing apparatus and the external printing apparatus, namely, the first type of direct printing or the second type of direct printing is not disclosed by Ito, Rasche, Kitagawa, Shiohara, or Tanaka.

Furthermore, Ito's apparatus requires all inter-device communication to be via the IEEE 1394 standard. See, for example, the abstract:

Disclosed are a data communication method whereby a first and a second node are directly connected so that they can exchange data directly, data communication apparatuses therefor, and a communication system that includes the apparatuses. A VTR and a printer are connected by an IEEE 1394 cable. When the printer requests the transmission of image data, the VTR transmits pertinent image data to the printer.

Ito's system apparently depends on the features of FireWire for its operation. Ito does not mention USB communication at all, and there is no indication that the apparatus of Ito would function as required if the camera and printer were connected in Mass Storage Class mode of USB. Consequently, one skilled in the art would have no reason to combine the teachings of Ito with those of Rasche, Kitagawa, or any other reference that teaches USB.

Moreover, Kitagawa is directed only to updating of firmware in a peripheral device connected to a computer, and mentions cameras and printers only as examples of such peripheral devices. There is no discussion in Kitagawa of communication directly between such peripheral devices. Consequently, one skilled in the art familiar with Kitagawa would have no reason to consult Ito or Rasche, or to try to combine the teachings of those three references.

Also, a combination of the teachings of Ito or Rasche with those of Kitagawa would not result in anything resembling the invention of claim 1. Instead, such a combination would result only in a system capable of updating peripheral device firmware using FireWire or USB communication – useful, perhaps, but entirely unrelated to the invention of claim 1.

Finally, the Patent Office is improperly dissecting the claimed invention into its component parts and trying to find each of those parts in the prior art, instead of considering

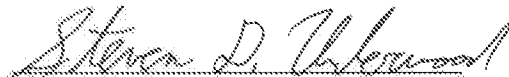
the claimed invention as a whole. See, for example, MPEP 2141.02: "In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious."

Most inventions are comprised of elements found in the prior art – what makes them inventions is a novel combination of those prior art elements to achieve an advantage not previously available. In the present case, as explained previously, the features of the claimed invention enable a user of an image sensing apparatus to connect to and communicate with virtually any printer, without concern about the type of printer. None of the cited prior art references, either separately or in combination, provides this advantage.

In light of the above, Applicant respectfully requests reconsideration and withdrawal of all pending rejections, and respectfully submits that all of the remaining claims are in condition for allowance.

October 29, 2009

Respectfully submitted,



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